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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/909,487

07/20/2001

Willard K. McClintock

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2572

7590

05/03/2006

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EXAMINER

MCNELIS, KATHLEEN A

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/909,487		MCCLINTOCK ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Kathleen A. McNelis		1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7,26 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,26 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) ☐ All    b) ☐ Some \* c) ☐ None of:
      - 1. ☐ Certified copies of the priority documents have been received.
      - 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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### **Claims Status**

Claims 1, 2, 4-7, 26 and 30 remain for examination wherein claims 1, 26 and 30 are amended.

### **Status of Previous Rejections**

The previous rejection of claims 1, 2, 4-7 and 30 under 35 U.S.C. 112 1<sup>st</sup> paragraph is withdrawn in view of applicant's amendments to the claims.

The previous rejections of claims 1, 2, 4-7, 26 and 30 under 35 U.S.C. 103(a) as being unpatentable over:

- Fudala (U.S. Pat. No. 5,493,580);
- Fudala in view of Landford Jr. et al. (1985);
- Fudala in view of Ford Jr. et al. (U.S. Pat. No. 5,738,694); and
- Fudala in view of Steger et al. (1999) are maintained.

Examiner notes that there was a typographical error in the October 17, 2005 office action. The rejection on page 8 of "claim 5" should read, "claim 7."

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 26 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed

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invention. The cited passage in the specification appears to provide very general information regarding Furnace Exhaust Material (FEM) including a range of iron varying from 20 to 70% and other metals and oxides of up to about 5% by weight. Examiner does not agree that this general disclosure of the starting waste material supports the specific limitation of less than about 6.7% by weight zinc oxide in applicants' product. Further, applicants state that a build up of heavy metals such as lead and zinc may occur as the PCM is recycled, and set an upper limit for lead (pg 14). However no limit appears to be set for zinc.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 5, 6 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fudala (U.S. Pat. No. 5,493,580).

Fudala is applied to the claims for the reasons set forth in the October 17, 2005 office action.

Further, with respect to the limitation that the zinc oxide is less than about 6.7%, Fudala discloses recycling the material until the zinc content reaches 25 to 30%, whereupon it may be treated by other methods (col. 2 lines 32-49). The range of zinc is therefore up to 30% in Fudala. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the recycling method disclosed by Fudala with material containing less than about 6.7% zinc oxide, since Fudala teaches that the method is suitable for any material up to about 25 to 30% zinc.

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Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fudala (U.S. Pat. No. 5,493,580) in view of Lankford Jr. et al. (The Making, Shaping and Treating of Steel, 1985).

Fudala in view of Landford Jr. et al. is applied to the claims for the reasons set forth in the October 17, 2005 office action.

Claims 4 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fudala (U.S. Pat. No. 5,493,580) in view of Ford Jr. et al. (U.S. Pat. No. 5,738,694).

Fudala in view of Ford Jr. et al. is applied to the claims for the reasons set forth in the October 17, 2005 office action.

Further, with respect to the limitation that the zinc oxide is less than about 6.7%, Fudala discloses recycling the material until the zinc content reaches 25 to 30%, whereupon it may be treated by other methods (col. 2 lines 32-49). The range of zinc is therefore up to 30% in Fudala. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the recycling method disclosed by Fudala with material containing less than about 6.7% zinc oxide, since Fudala teaches that the method is suitable for any material up to about 25 to 30% zinc.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fudala (U.S. Pat. No. 5,493,580) in view of Steger et al. ("Waste Gas Purification and Waste Free Plant Concept for EAF", 1999).

Fudala in view of Steger et al. is applied to the claims for the reasons set forth in the October 17, 2005 office action.

Examiner notes that there was a typographical error in the October 17, 2005 office action. The rejection on page 8 of "claim 5" should read, "claim 7."

### ***Response to Arguments***

Applicant's arguments filed on 20 April 2006 have been fully considered but they are not persuasive.

Applicants' arguments are summarized as follows:

1. Fudala discloses recycling filter dust having zinc oxide proportions in an amount which exceeds 25% (Fudala col. 1 lines 28-33).
2. Fudala discloses filter dust which applicant considers to be bag house dust as opposed to drop out box material.
3. There is no motivation in Lankford Jr. to recycle post combustion material.
4. There is no motivation in Ford Jr. to recycle post combustion material.
5. There is no motivation in Steger to recycle post combustion material.

Examiners' responses are as follows:

1. The passage in Fudala that applicants cite is in the background section where Fudala summarizes the state of the art procedure of recovering metal values from filter dust in a rotary furnace. This is **not** the invention of Fudala, which is a recycling process. In the recycling process of Fudala the dust is recycled numerous times until the zinc content reaches 25 to 30%, whereupon it is suitable for recovery by the type process Fudala mentions in the background discussion (see col. 2 lines 31-49). Therefore the zinc oxide content disclosed in Fudala is up to 30%.
2. Examiner does not agree that the general term "filter dust" used in Fudala would limit the use of the invention to dust collected from a baghouse type filter. As stated in the 10/17/2005 Office Action, and in the absence of evidence to the contrary, examiner contends that the dust "collected in dust filtering devices" in Fudala would suggest to one of ordinary skill in the art all dust collected from the emissions control system, including material in a drop-out box. Examiner does not see any disclosure or

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suggestion in Fudala that the process would be limited to dusts collected only from a baghouse type filter.

3. It is the primary reference Fudala that teaches recycling post combustion material as an additive to increase slag foaming in steelmaking, which is a technique employed in refining steel. Lankford Jr. teaches dolomite as an additive that is used to remove impurities during steel refining as discussed on page 6 of the 10/17/2005 Office Action.
4. It is the primary reference Fudala that teaches recycling post combustion material as an additive to increase slag foaming in steelmaking. The motivation to combine references is discussed on page 7 of the 10/17/2005 Office Action.
5. Steger et al. is cited to provide information on the general composition of the starting material, which is the same as the type material used in the primary reference Fudala. It is the primary reference Fudala which teaches recycling the post combustion material.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen A. McNelis whose telephone number is 571 272 3554. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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